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09/813,303

03/21/2001

Seiichi Banba

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01/02/2003

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EXAMINER

SHINGLETON, MICHAEL B

ART UNIT

PAPER NUMBER

2817

DATE MAILED: 01/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09-813303

Applicant(s)

Banba et al.

Examiner

SHINGLETON

Group Art Unit

2817

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE Three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

☒ Responsive to communication(s) filed on 10-23-2002

☐ This action is FINAL.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

☒ Claim(s) 1-19

☒ are pending in the application.

Of the above claim(s) 6, 7, 9-11, 15

☒ are withdrawn from consideration.

☐ Claim(s)

is/are allowed.

☒ Claim(s) 1-5, 8, 12-14, 16-19

☒ are rejected.

☐ Claim(s)

is/are objected to.

☐ Claim(s)

are subject to restriction or election requirement

## Application Papers

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119 (a)-(d)

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).

☒ All ☐ Some\* ☐ None of the:

☒ Certified copies of the priority documents have been received.

☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.

☐ Copies of the certified copies of the priority documents have been received

in this national stage application from the International Bureau (PCT Rule 17.2(a))

\*Certified copies not received: \_\_\_\_\_

## Attachment(s)

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s) 5

☐ Interview Summary, PTO-413

☒ Notice of Reference(s) Cited, PTO-892

☐ Notice of Informal Patent Application, PTO-152

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Other \_\_\_\_\_

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### **DETAILED ACTION**

A more descriptive title is needed. The examiner suggests that the important aspects of the thin film resistor be some how incorporated into the title.

Applicant's election of Species I in Paper No. 7 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Vinn et al. 4,717,888 (Vinn).

Note Figure 1 and elements 30d and 20 therein of Vinn. (Note the that rejection below utilizes Vinn in a 35 USC 103 rejection, however, Vinn is not the primary reference. Vinn teaches the modification of the primary reference in this rejection(s) below which makes obvious the claimed invention of claim 1 as well as many other claimed inventions set forth in other claims. Claim 1 is simply a very broad claim that this office action makes clear in that this claim is anticipated by some of the prior art of record and is also obvious when one considers what the combined prior art teaches and suggests to one of ordinary skill in the art.)

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 8, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holt page 384 of Electronic Circuits" (Holt) in view of Vinn et al. 4,717,888 (Vinn).

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The elected and claimed invention represented by Figures 1 and 13 of the instant application is merely a typical CE amplifier wherein the resistor connected to the collector i.e. "321" or "30" is a thin film resistor.

Figure 13-1 of Holt discloses the typical CE amplifier having the exact structure of the instant elected and claimed invention, except Holt is silent on the use of thin film resistors for the resistor R4 that is connected to the collector of the transistor.

[In typical CE configurations] it is well known to those of routine skill in the art to utilize a thin film resistor "30d" for the resistor connected to the collector of the transistor 20 of Vinn. Why the thin film resistors are employed in such amplifier circuits is common knowledge to those of routine skill in the art. Namely, the first reason is that it is common knowledge that thin film resistors have lower inductance over discrete units. In other words these resistors are more like ideal resistors compared to the discrete units, i.e. there is an enhanced frequency response because these elements do not have or have lower reactive components. This clearly is one reason why Vinn employs thin film resistors for the resistor connected to the collector of the transistor. Another reason is that the thin film resistor is integrable. Further still another reason Vinn employs thin film resistors as is common knowledge to those of routine skill in the art is that these elements are easily trimmable in the integration process i.e. their values can be made very accurate. All these reasons that are common knowledge to those of routine skill in the art makes the use of these thin film resistors highly advantageous in amplifier circuits.

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use thin film resistors for the resistor connected to the collector in Holt so as to decrease or eliminate frequency effects, i.e. make for an ideal resistor, allow for integration and trimmability as taught by Vinn.

As to the claimed "no frequency dependency", as stated above no element is ideal, not even applicant's thin film resistor. Therefore since no discrete measurable range is claimed nor any discrete structure that defines "no frequency dependency" the thin film resistors mentioned above are seen as meeting this "limitation".

Claims 12, 13 and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holt page 384 of Electronic Circuits" (Holt) in view of Vinn et al. 4,717,888 (Vinn) as applied to claim s 1-5, 8, and 14 above, and further in view of Campbell et al. 5,546,033 (Campbell).

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The elected and claimed invention represented by Figures 1 and 13 of the instant application is merely a typical CE amplifier wherein the resistor connected to the collector i.e. "321" or "30" is a thin film resistor.

Figure 13-1 of Holt discloses the typical CE amplifier having the exact structure of the instant elected and claimed invention, except Holt is silent on the use of thin film resistors for the resistor R4 that is connected to the collector of the transistor.

{In typical CE configurations} it is well known to those of routine skill in the art to utilize a thin film resistor "30d" for the resistor connected to the collector of the transistor 20 of Vinn. Why the thin film resistors are employed in such amplifier circuits is common knowledge to those of routine skill in the art. Namely, the first reason is that it is common knowledge that thin film resistors have lower inductance over discrete units. In other words these resistors are more like ideal resistors compared to the discrete units, i.e. there is an enhanced frequency response because these elements do not have or have lower reactive components. This clearly is one reason why Vinn employs thin film resistors for the resistor connected to the collector of the transistor. Another reason is that the thin film resistor is integrable. Further still another reason Vinn employs thin film resistors as is common knowledge to those of routine skill in the art is that these elements are easily trimmable in the integration process i.e. their values can be made very accurate. All these reasons that are common knowledge to those of routine skill in the art makes the use of these thin film resistors highly advantageous in amplifier circuits.

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use thin film resistors for the resistor connected to the collector in Holt so as to decrease or eliminate frequency effects, i.e. make for an ideal resistor, allow for integration and trimmability as taught by Vinn.

As to the claimed "no frequency dependency", as stated above no element is ideal, not even applicant's thin film resistor. Therefore since no discrete measurable range is claimed nor any discrete structure that defines "no frequency dependency" the thin film resistors mentioned above are seen as meeting this "limitation".

Claims 16-19 set forth the limitations on the thin film resistors as being of "a metal or a metal compound" that includes the likes of "aluminum, titanium or tantalum", or "semiconductor". Holt and Vinn are silent on the use of these compositions to make up a thin-film resistance.

Figure 3 of Campbell discloses the use of a thin film resistance element 311 connected to a transistor can take the form a thin film resistor whose thin film can be a "polycrystalline silicon" i.e.

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semiconductor, or a tantalum metal. These are art recognized equivalent materials used to make up a thin film resistor.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have substituted conventional semiconductor or metals like tantalum in place of the generic thin film layer of Holt in view of Vinn, as these references are silent as to the material forming the thin film resistor, any art-recognized material, such as that disclosed by Campbell, would have been usable as the well-known conventional thin film resistive material.

Claims 12 and 13 merely recite the workable range of how thick to make the thin film resistor. This thickness measurement is based upon a "predetermined frequency" and thus since it has been long held that "predetermined" means any amount, this thickness is defined as any amount. Clearly, accordingly, this thickness lies within the optimum or workable range and as it has been long held that the optimum or workable range involves but routine skill in the art, the selection of this range would clearly been obvious to one of ordinary skill in the art at the time the invention was made.

#### ***Conclusion***

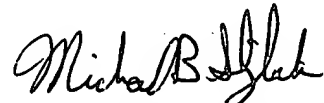
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Gentzler 4,134,080 discloses the use of a thin film resistor which has a "lower inductance" that is desirable in amplifier circuits. Misawa et al. 62-142,403 discloses a general thin film resistor in an amplifier circuit.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael B. Shingleton whose telephone number is 703-308-4903. The examiner can normally be reached on Monday-Thursday from 8:30 to 4:30. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal, can be reached on (703) 308-4909. The fax phone number for the organization where this application or proceeding is assigned is 703-308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

MBS  
December 23, 2002

  
MICHAEL B SHINGLETON  
PRIMARY EXAMINER  
GROUP ART UNIT 2817